ER Site No. 96: Storm Drain System

ADS: 1302
Operable Unit: Technical Area I

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Site History

ER Site 96, the Storm Drain System, was listed as Site 96 based on information obtained during the Comprehensive Environmental Assessment and Response Program (CEARP) Phase I interviews. The original ER site name was the Storm Drain System (Active). The ER site name was changed to the Storm Drain System during the development of the Technical Area (TA)-I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan .

The original storm drain system was constructed between 1948 and 1950. The system collects storm water runoff from TA-I, -II, and -IV. The majority of the storm water flows from east to west with the terrain across SNL/NM. For TA-I, the water is conveyed through a series of open channels and underground lines from north to south to the Tijeras Arroyo. The system was developed in three watersheds and is described in a drainage system analysis. ER Site 96 only covers the storm drain system in and around TA-I. The site boundaries are assumed to be the limits of areas where potential constituents of concern (COCs) have been detected near breaks in the lines or at the outfall locations. Any storm water flowing within the system is not addressed as part of ER Site 96. Storm water flow within the storm drain system is regulated under the National Pollution Discharge Elimination System (NPDES) amendments to the Clean Water Act.

During the CEARP Phase I interviews, the storm drain system was reported to have received contaminants from various activities. System discharges were reported to include nonpoint source surface runoff from TA-I, blowdown from an incinerator scrubbing system, and cooling tower blowdown water (possibly containing chromates and other antifoulants). There were several specific releases to the storm drains recorded in the CEARP report:

- An estimated 200 gal of 20 percent sodium hydroxide (NaOH) spilled from an above-ground tank at ER Site 42, Acid Spill Water Treatment Facility for discharges from Building 870, in 1984.

- An estimated 1000 gal of 30 percent hydrochloric acid (HCL) was released from an above-ground tank at the Acid Spill Water Treatment Facility near Building 870, ER Site 42, in 1983.
- A cooling tower on the roof of Building 806 caught fire in 1983 and wood slats that were believed to have been contaminated with chromium burned. Much of the debris was reported to have been washed down the drain.
- An estimated 500 gal of Number 2 fuel oil from a tank overflow was released to the storm drain system; the location of the tank was not reported.

Compilation of data that have been collected at this site is provided in the TA-I RFI Work Plan, submitted to the Environmental Protection Agency (EPA) in February 1995.

Constituents of Concern

The potential COCs identified for this site during its history include:

HCL,
NaOH,
Petroleum hydrocarbons,
Chromium,
Chlorinated organic compounds,
Alcohols,
Metals,
Polychlorinated biphenyls (PCBs), and
Radionuclides.

Current Hazards

There are some elevated levels of some metals (chromium, manganese, silver, and vanadium) at some outfalls. However, based on the concentrations of these metals found to date, an assessment of the risk under an industrial land-use setting indicates that this site does not have a significant potential to affect human health. There were slightly elevated levels of Pu 238, Pu 239/240, and tritium; however, the total effective dose equivalent was less than that allowed for a residential-use setting.

Current Status of Work

The TA-I RFI Work Plan was delivered to EPA for review in February 1995. Site characterization and field sampling activities began in June 1995. The surface (0-2 ft) and near-surface (2-10 ft) field investigations were completed in July 1995. Sampling data indicate that there are detectable amounts of PCB and semi-volatile organic compound (SVOC) contamination in the open storm drain channels. Final analysis indicates no detectable levels of contamination for radionuclides and metals.

Based upon the results of data collected in the Storm Drain System, a no further action (NFA) proposal with risk-assessment justification was prepared and submitted to the New Mexico Environment Department (NMED) for review in May 1997. NMED reviewed the NFA and returned a Request for Supplemental Information (RSI) in March 1998. SNL responded to the RSI in June 1998. NMED requested that additional sampling be done to further determine the nature and extent of contamination. Some additional soil sampling was completed at outfalls in late 1998.

NMED also requested additional sampling at Sites 187 and 226. Because of the close proximity of these sites to Site 96, and because the nature of contamination was similar, it was decided to combine further sampling at theses sites to reduce the amount of sampling needed.

In September 2001, SNL met with NMED to specifically define what additional sampling should be done at Sites 96, 187 and 226. A Sample and Analysis Plan was completed in November 2001 to document the results of the discussions. SNL agreed to collect soil samples at 22 locations in the vicinity of 9 original sample locations for Site 96; 4 samples were to be collected at the original sample location and the remaining 18 samples at locations offset from the original sample location. The constituents the samples were to be analyzed for varied but included VOCs, SVOCs, PCBs, RCRA metals, and isotopic plutonium. SNL also agreed to complete a systematic surface soil survey of plutonium concentrations in TAI.

The soil samples defined in the SAP were collected in January, May and June 2002. Twenty-two samples were collected in the vicinity of old sampling locations in January and May 2002 and 33 locations were sampled for the systematic plutonium survey in June 2002.

Future Work Planned

The final response to the NMED's March 1998 RSI request will be completed. The response will include a summary of the recent sampling results and a revised risk assessment.

Waste Volume Estimated/Generated

A small amount of waste was generated during the characterization conducted for the RFI.

Information for ER Site 96 was last updated Jan 21, 2003.